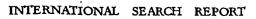
INTERNATIONAL SEARCH REPORT

International application No. PCT/US03/18857

A. CLASSIFICATION OF SUBJECT MATTER IPC/7) B01J 20/00, 21/04, 23/00, 23/40, 23/42, 23/44					
(.)	1017 20100, 21104, 23100, 23140, 23142, 23144 102/303, 327, 333, 334, 335, 337, 339, 351, 35 <i>5</i> , 41 <i>5</i> , 4	139 .			
According to International Patent Classification (IPC) or to both national classification and IPC					
	OS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols)					
U.S. : 502/303, 327, 335, 334, 335, 337, 339, 351, 355, 415, 459, 527.19.					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched					
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)					
C. DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where app	propriate, of the relevant passages	Relevant to claim No.		
X	US 6,165,934 A (GARDNER et al) entire document.	26 DECEMBER 2000, see	1-3, 5-11, 13-19, & 21-23		
A	US 6,121,189 A (CAMPBELL et al) entire document.	ALL			
A	US 6,255,249B1 (VOSS et al) 03 JULY	Y 2001, see entire document.	ALL		
A	US 6,140,266 A (CORRIGAN et al) 31 document.	OCTOBER 2000, see entire	ALL		
A	US 6,180,075 B1 (LINDNER et al) 30 document.	ALL			
A	US 6,248,689 B1 (MANSON) 19 JUN	E 2001, see entire document.	ALL		
X Further documents are listed in the continuation of Box C. See patent family annex.					
Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention					
	cument defining the general state of the art which is not usidered to be of particular relevance riler document published on or after the international filing date	"X" document of particular relevance; the	ne claimed invention cannot be		
document which may throw doubts on priority claim(s) or which is when the document is cited to establish the publication date of another citation or other			ne claimed invention cannot be		
"O" do	edal reason (as specified) cument referring to an oral disclosure, use, exhibition or other cans	considered to involve an inventive combined with one or more other suc being obvious to a person skilled in	e step when the document is the documents, such combination		
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Date of the actual completion of the international search Date of mailing of the international search report					
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Name and mailing address of the ISA/US Authorized officer					
Commissioner of Patents and Trademarks Box PCT		CAM NGUYEN lean Processian			
Washington, D.C. 20231 Faceimile No. (708) 205-3930		Pu Telenhone No. (703) 308-0661	ancen J.M.		



International application No. PCT/US0s/18867

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where appropriate, of the relev	Relevant to claim No.			
A	US 6,294,140 B1 (MUSSMANN et al) 25 SEPTEMBER 2001, see entire document.		ALL		
A	US 6,365,543 B1 (SCHMIDT et al) 02 APRIL 2002, see entire document.		ALL		
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